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AUTHOR Mack, Richard Wayne
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ABSTRACT

A study tested the general proposition that, although professors of education courses possess knowledge concerning the concepts of creativity, little of that knowledge is passed on to undergraduate students. Ten colleges and universities in Washington and Idaho with teacher education programs were selected for the study. A total of 62 teacher educators and 388 student teachers were polled by questionnaires. Results indicated that both teacher educators and student teachers thought that enhancing creativity in children was an important topic to include in teacher education programs. However, both groups felt that it was not being taught to any great extent in the programs. Although many of the teacher educators rated their own teaching styles as being more divergent than convergent in nature, many of the student teachers indicated that no classes they had taken had been taught in a creative manner. (CB)

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ARE METHODS OF ENHANCING CREATIVITY BEING TAUGHT IN TEACHER EDUCATION PROGRAMS AS PERCEIVED BY TEACHER EDUCATORS AND STUDENT TEACHERS ?

ABSTRACT

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RICHARD WAYNE MACK

DOCTOR OF EDUCATION

UNIVERSITY OF IDAHO

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
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A review of the literature concerning creativity reveals that this quality is not being enhanced well in American school children. This study proposes that one reason for this shortcoming may be that teachers are not taught about creativity in teacher education programs at colleges and universities.

Ten colleges and universities in Washington and Idaho which have teacher eduction programs were selected for this study. During the Spring of 1985, 62 teacher educators and 388 student teachers were polled by hand-delivered questionnaires.

The results of the study indicated that both teacher educators and student teachers thought that ENHANCING CREATIVITY IN CHILDREN was an important topic to include in teacher education programs. However, both teacher educators and student teachers thought that it was not being taught to

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any great extent in these programs. The study further revealed that teacher educators rated their own teaching and styles as being more divergent than convergent in nature. However, 40 percent of the student teachers in the study indicated that no classes which they had taken in the teacher education program had been taught in a creative manner. Also, teacher educators indicated that their own knowledge concerning the concepts of creativity was learned someplace other than an undergraduate teacher education program.

ARE METHODS OF ENHANCING CREATIVITY BEING TAUGHT IN TEACHER EDUCATION PROGRAMS AS PERCEIVED BY TEACHER EDUCATORS AND STUDENT TEACHERS?

STUDY OBJECTIVES: The purpose of this study was to test the general proposition that, although professors of education courses possess knowledge concerning the concepts of creativity, little is passed to undergraduate students.

To answer the primary question, certain sub-questions needed to be answered. Specifically:

1. Did teacher educators and undergraduate education students see methods of enhancing creativity in children as being an important concept to learn?
2. Did professors of education perceive that they are teaching more about the enhancement of creativity than students perceive they are being taught?
3. Did professors of education have a better knowledge base about creativity and its enhancement than undergraduate education students?
4. If teacher educators select certain courses as being taught creatively, will those same courses be chosen by undergraduate education students as having been taught creatively?
5. Did professors see their own teaching and testing methods as being primarily convergent or divergent?
6. Did teacher educators learn what they know about creativity at the undergraduate level or later in their

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own educational careers?

7. Did student teachers view the majority of undergraduate courses as having been taught in a creative manner?

Research instruments were designed to gather data in an attempt to answer these research questions.

RESEARCH INSTRUMENT: The research instrument that was developed for data collection was a two-part questionnaire. Part I of the questionnaire (see Appendix A) was presented in a duplicate form to both teacher educators and student teachers at selected institutions.

The purpose of Part I was (1) to determine how important teacher educators and student teachers thought it was to include the teaching of the methods of enhancing creativity in a teacher training program and (2) to determine how thoroughly teacher educators and student teachers thought that the methods of enhancing creativity in classrooms had been taught in the undergraduate teacher education program.

Part I of the questionnaire listed twenty(20) topics that traditionally are included in an undergraduate teacher education program. By random selection the topic ENHANCING CREATIVITY IN CHILDREN was placed ninth in the listing. Participants were then asked to rank each listed item as being VERY IMPORTANT, SOMEWHAT IMPORTANT, or NOT IMPORTANT by circling the letter of their choice. V, S, and N were used as

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the selection letters since it was felt that they would be less value laden than numerals (Dillman,1978).

Page two of Part I of the questionnaire was identical to page one with the exception that it asked the respondents to rank the items based on how thoroughly they thought the topics had been taught in the teacher education program at their institution. The rankings for the items on page two were: VERY THOROUGHLY, SOMEWHAT THOROUGHLY, and NOT THOROUGHLY. Again V, S, and N were used as the selection indicators.

The first two pages of Part II of the questionnaire (see Appendix A) were identical for both groups. These pages consisted of a twenty (20) item test of knowledge level questions concerning the concepts of creativity and methods of enhancing creativity.

Respondents were asked to circle YES, NO, or DON'T KNOW for each of the twenty questions. The DON'T KNOW response was included to increasre the accuracy of the instrument. It was felt that this would give a more accurate reflection of both teacher educator and student teacher knowledge level concerning the topic.

Following the first two pages of Part II, the instruments were designed differently with questions geared for each specific set of respondents. The teacher educator's questionnaire contained five areas of inquiry beginning on page three of Part II.

Teacher educators were first asked to rank both their teaching and testing styles on a 1-10 (convergent-divergent)

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scale. Secondly, teacher educators were asked to identify courses in which they had taught either the concepts of creativity or methods of enhancing creativity. The teacher educators were also asked to identify any courses in which they felt they were allowed to be creative in either the design or the delivery of that course.

The next page of the teacher educator questionnaire was developed to determine where they had obtained their own knowledge of the concepts of creativity. The question asked them to check: COLLEGE (undergraduate), COLLEGE (graduate), WORKSHOP(S), CONFERENCE(S), INDEPENDENT STUDY, or OTHER sources.

Starting with page two, Part II, the student teachers were asked to list the education courses that they thought had either taught the concepts of creativity or had taught methods of enhancing creativity. The objective for this item was to see if courses were viewed similarly or differently by students and by teacher educators. The question is an attempt to see if what teacher educators think teaches the concepts of creativity is viewed as such by teacher trainees.

The final item for student teachers asked them to list any education courses that they thought had been taught in a creative manner. The purpose of this question was to learn which courses students thought had been taught creatively.

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POPULATION TESTING - SELECTION OF SUBJECTS: Ten teacher education institutions located in Eastern Washington and Western Idaho were selected as the population for this study. The individual institutions were selected because they each offered a teacher education program and included student teaching. Together they offered a mix of colleges and universities, they included institutions receiving both public and private support and, finally, they offered a representative mix of three large (over 8,000 students), five small (under 2,000 students) and two medium-sized (2000-8000 students) institutions.

COLLECTION OF DATA: The chairman of the Education Department of each of the ten institutions was contacted personally by the researcher in the fall of 1984. At those meetings the purpose of the research was explained and copies of the data collection instrument were shown if requested. Each of the institutions contacted agreed to participate in the study.

It was explained that the data collection would require a Spring meeting when all student teachers and teacher educators would be together for a mutual meeting. At this intial meeting, dates were set for the Spring data collection.

During January and February, 1985, each institution was again visited by the researcher. These visits were held on the dates previously agreed upon. In each case they coincided with initial orientation meetings or with subsequent student teacher seminars. At these meetings, the researcher explained in general terms the nature of the task without revealing that the concept of creativity was the focus of the research.

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Part I of the questionnaire (see Appendix A) was distributed to teacher educators and to student teachers. As each participant completed Part I, it was collected and they were presented the appropriate Part II section. As each participant completed Part II it was handed to the researcher. The entire process required 12-15 minutes.

DATA ANALYSIS: The data collected was compiled and reported in several forms. The results of Part I of the questionnaire asked teacher educators and student teachers to rank the importance and coverage of methods of enhancing creativity. These were converted to percentages.
Responses were then ranked. This was accomplished by giving V ery important, very thoroughly) a weight of 100, S (somewhat important, somewhat thoroughly) a weight of 50, and N (not important, not thoroughly) a weight of 0.

From Part II, the knowledge level question results were also converted to percentages. These percentages have been reported separately for teacher educators and student teachers.

Courses indicated by teacher educators as ones which taught the concepts of creativity were compared with those identified by student teachers. The results were reported as the average number of courses selected by student teachers and by teacher educators. The same procedure and reporting was used for the courses which taught methods of enhancing creativity.

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In seeking to determine if teacher educators believed they taught and/or tested in a divergent or a convergent manner, a rating continuum scale (10 - divergent, 1 - convergent) was used. Each ranking by a teacher educator was given an absolute value. A mean and median were then obtained from these scores for each institution.

When teacher educators were asked to reveal where they obtained the information they possessed about concepts of creativity, they checked: COLLEGE (undergraduate), COLLEGE (graduate), WORKSHOP(S), INDEPENDENT STUDY, CONFERENCE(S), or OTHER. The sum of the total responses for each category were tallied and then reported as percentages of the total number of responses.

The number of courses which student teachers selected as having been taught in a creative manner were analysed in two ways. First, an average number of responses per student was determined from the data. Secondly, the percentage of students listing NONE was reported as a percentage.

CONCLUSIONS: "It is sometimes said that the public school discourages creative thinking, but the school has many tasks and we might be better justified in saying that creative thinking is not very high on the list of most teacher educator's objectives" (Lowenfeld & Brittain, 1982, 74). It was with this idea in mind that the current study was undertaken.

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One reason for the seemingly low priority of enhancing creativity in classrooms might be that that helping new teachers become acquainted with the concepts of enhancing creativity has not been a priority of teacher education programs.... However, this study revealed that, in ten institutions of higher learning in Idaho and Washington, students and teacher educators alike felt that enhancing creativity in children was important.

When teacher educators and student teachers ranked courses in the undergraduate program as VERY IMPORTANT, SOMEWHAT IMPORTANT, or NOT IMPORTANT, these rankings were converted to percentages. Teacher educators placed METHODS OF ENHANCING CREATIVITY IN CHILDREN at an 85 percent level of importance and student teachers at a 90 per cent level. The study further revealed that, even though it was felt to be important, it was only believed to be included in the teacher education program at the 48 percent level according to teacher educators and at the 52 percent level according to student teachers. Thus, disparity may exist between what teachers say and what they actually do.

It might be argued that the same perrenial lack of emphasis is true of other important subjects at institutions of higher learning. However, of the twenty topics listed in this study, teacher educators rated METHODS OF ENHANCING CREATIVITY fifth out of twenty in importance but only as tenth out of twenty in how thoroughly it was being taught at their institution. Students teachers reflected similar disparity

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between the importance and the practice. They ranked METHODS OF ENHANCING CREATIVITY IN CHILDREN as the second most important subject while they ranked the actual teaching of this topic as seventh out of twenty.

A conclusion which might be drawn from the ten surveyed institutions is that the value of enhancing creativity is recognized. Teacher educators and future teachers, recognize the need to enhance the teaching of creative expression in children. While both groups believe the topic to be worthy of inclusion in a teacher education program, they believe the goal was not well met.

Perhaps we are not teaching the skills of enhancing creativity in children because we don't know enough about how to do it. This writer believes that there has been adequate research and knowledge collected to competently teach the subject. Perhaps it is not being taught more thoroughly because teacher educators are not sufficiently aware of the knowledge which could make the teaching of it more effective.

The teacher educators surveyed answered 63 percent of the twenty knowledge level questions correctly. Student teachers answered only 47 percent correctly. It can be argued that any knowledge level questions are subject to interpretation and debate. Granting that, however, this researcher believes the instrument was effective enough to differentiate between the knowledge levels of teacher educators and those of student teachers. No student teachers were able to answer all the questions correctly, while 12 teacher educators were able to

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do so. The average scores by either group, however, would place the groups in jeopardy if their GPA depended upon their knowledge of the field of creativity.

Teacher educators and student teachers may have rated courses which included CONCEPTS OF CREATIVITY and METHODS OF ENHANCING CREATIVITY low because it was not believed to be included in any of the education courses at their institution. Only three schools out of the ten surveyed (A,H and J) had a course offered which dealt specifically with creativity. In all three institutions, this course was called CREATIVITY IN THE CLASSROOM. Results of this study suggest that these classes didn't have much impact on overall student scores. However, at each institution these are elective courses and therefore not taken by all students.

When teacher educators were asked to name the courses they taught which addressed CONCEPTS OF CREATIVITY or METHODS OF ENHANCING CREATIVITY, 37 and 47 percent, respectively, said NONE. This means that 23 of 62 teacher educators felt that none of their courses taught the CONCEPTS OF CREATIVITY and that 29 of 62 felt that none of their courses included suggestions for METHODS OF ENHANCING CREATIVITY.

Of 388 student teachers surveyed, 158 believed they had not taken any classes which taught CONCEPTS OF CREATIVITY. One hundred eighty-five indicated that they had taken no classes which taught METHODS OF ENHANCING CREATIVITY. This represents 41 and 49 percent of the student teaching population, respectively.

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Data concerning how teacher educators said education classes were taught and how they were perceived as being taught by the learners conflicted. Overall, teacher educators indicated that their teaching and testing styles tended to be more divergent in nature than convergent. While divergent teaching may not be synonymous with creative teaching, it should have suggested at least a non-traditional approach. However, over 40 percent of the student teachers surveyed indicated that no classes taken in their undergraduate teacher education program were taught in a creative manner. Student teachers indicated an average of less than one class in their undergraduate teacher education program had been taught in a creative manner. Student teachers did not perceive creative teaching being modeled or taught to any great extent.

Teacher educators themselves revealed that their own undergraduate teacher education programs had not been effective in teaching the concepts of creativity. Only 11 percent of the teacher educator's responses indicated that they learned what they know about creativity at the undergraduate level. Eighty-nine percent of the teacher educators believed they learned about creativity somewhere other than in their undergraduate education program.

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Dillman, Donald (1978). Mail and telephone surveys: The total design method, New York: John Wiley and Sons.

Lowenfeld, Viktor & Brittain, W.L. (1982). Creative and mental growth,7th Edition, New York: MacMillan Publishing Company.

TEACHER TRAINER

QUESTIONNAIRE

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CURRICULUM SELECTION AND COVERAGE

How important do you think it is to include the listed topic in a teacher education program ? Please circle the letter which best expresses your opinion.

TOPIC	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT
	↓	↓	↓
*Bilingual education in schools	V	S	N
*Methods of individualizing instruction	V	S	N
*Child growth and development	V	S	N
*Methods of enhancing self concept	V	S	N
*Methods of teaching sex education	V	S	N
*Classroom management techniques	V	S	N
*Methods of enhancing environmental awareness	V	S	N
*Methods of teaching career awareness	V	S	N
*Methods of enhancing creativity in children	V	S	N
*Instructional methods and techniques	V	S	N
*Methods of using computers in the classroom	V	S	N
*Politics in education	V	S	N
*Methods of diagnosing learning disabilities	V	S	N
*Evaluation techniques in the classroom	V	S	N
*Methods of enhancing home-school relations	V	S	N
*Methods of grading and reporting	V	S	N
*Values clarification in the classroom	V	S	N
*History of education in America	V	S	N
*Multi-cultural education in the classroom	V	S	N
*Methods of mainstreaming children	V	S	N

CURRICULUM SELECTION AND COVERAGE

How thoroughly do you think that each of the following topics is covered in the teacher education program at this school ? Please circle the number which best expresses your opinion.

TOPIC	VERY THOROUGHLY	SOMEWHAT THOROUGHLY	NOT THOROUGHLY
*Bilingual education in schools	V	S	N
*Methods of individualizing instruction	V	S	N
*Child growth and development	V	S	N
*Methods of enhancing self concept	V	S	N
*Methods of teaching sex education	V	S	N
*Classroom management techniques	V	S	N
*Methods of enhancing environmental awareness	V	S	N
*Methods of teaching career awareness	V	S	N
*Methods of enhancing creativity in children	V	S	N
*Instructional methods and techniques	V	S	N
*Methods of using computers in the classroom	V	S	N
*Politics in education	V	S	N
*Methods of diagnosing learning disabilities	V	S	N
*Evaluation techniques in the classroom	V	S	N
*Methods of enhancing home-school relations	V	S	N
*Methods of grading and reporting	V	S	N
*Values clarification in the classroom	V	S	N
*History of education in America	V	S	N
*Multi-cultural education in the classroom	V	S	N
*Methods of mainstreaming children	V	S	N

CREATIVITY

PLEASE INDICATE ANSWERS TO THE FOLLOWING QUESTIONS BY CIRCLING THE ANSWER OF YOUR CHOICE.

*Creativity and intelligence are the same ?

YES NO DON'T KNOW

*Creativity is the ability to utilize linear/convergent thinking skills ?

YES NO DON'T KNOW

*According to the "split-brain" (bicameral) theory, the left hemisphere houses most of a person's creativity ?

YES NO DON'T KNOW

*The stages of creativity usually cited are: preparation, incubation, inspiration and evaluation ?

YES NO DON'T KNOW

*An open classroom with total freedom will encourage creativity ?

YES NO DON'T KNOW

*A general quality in creative persons is a well-developed sense of humor ?

YES NO DON'T KNOW

*Children generally become more creative after they enter school ?

YES NO DON'T KNOW

*Creative people generally exhibit flexibility and independence in thought and action ?

YES NO DON'T KNOW

*Girls, as a rule, are more creative than boys ?

YES NO DON'T KNOW

*Most creative people are uncomfortable with disorder ?

YES NO DON'T KNOW

*E. Paul Torrance is a prominent name in the study of creativity ?

YES NO DON'T KNOW

*Research about creativity has increased over the last 20 years ?

YES NO DON'T KNOW

*Highly creative people are usually highly intelligent people ?

YES NO DON'T KNOW

*Gifted and talented programs have identified most of the creative students in our schools ?

YES NO DON'T KNOW

*Emotional involvement is necessary to sustain creativity ?

YES NO DON'T KNOW

*The dreams of creative people tend to be more adventuresome ?

YES NO DON'T KNOW

*Highly creative people tend to rise from the upper or lower classes rather than from the middle class ?

YES NO DON'T KNOW

*Creative people tend to have happier childhoods ?

YES NO DON'T KNOW

*Creative people usually have non-traditional value systems ?

YES NO DON'T KNOW

*It has been shown that mind-altering drugs enhance creativity ?

YES NO DON'T KNOW

PROFESSOR QUESTIONNAIRE

Please circle the number which best reflects your usual teaching style.

DIVERGENT (activity,inquiry) — CONVERGENT (primarily lecture)

10 9 8 7 6 5 4 3 2 1

Please circle the number which best reflects your usual testing style.

DIVERGENT (open ended) — CONVERGENT (known facts)

10 9 8 7 6 5 4 3 2 1

COMMENTS:

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Think back over the teacher training courses that you have taught at this institution. Which, if any, gave direct instruction in the concepts of creativity or in methods of enhancing creativity? (You may list some courses in both categories)

COURSES WHICH TAUGHT CONCEPTS OF CREATIVITY (what is creativity?)	TO WHAT DEGREE WERE THESE CONCEPTS TAUGHT IN THIS COURSE?		
	primary emphasis	some emphasis	little emphasis

COURSES WHICH TAUGHT METHODS OF ENHANCING CREATIVITY (How can we make children more creative?)	TO WHAT DEGREE WERE THESE METHODS TAUGHT IN THIS COURSE?		
	primary emphasis	some emphasis	little emphasis

Which courses have you taught which have allowed you to be creative in designing or delivering that course?

Can you recall where you learned what you know about creativity and methods of enhancing creativity?

____ College (undergraduate

____ College (graduate level)

____ Independent study

____ Particular course or workshop

____ Other

Comments:

Can you cite a specific example of a time when you thought that your teaching was "enhancing student creativity?